

- LEGEND**
GENERAL:-
- RP boundary.
 - Top of batter.
 - Toe of batter.
 - Change of grade.
 - Stormwater drain line.
 - Subsoil drainage.
 - Sewer main.
 - Sewer manhole.
 - Crusher dust backfill.
 - uPVC water main.
 - Poly water main.
 - Irrigation conduit.
 - Stormwater drain line.
 - Subsoil drainage.
 - Sewer main.
 - Sewer manhole.
 - Water main.
 - Poly water main.

- SEWERAGE RETICULATION:-**
- 2
1A - Manhole Number
 - 2
1A - Sewer line description
 - 2.000
1.950 - Sewer invert levels at manhole.
 - 1A - Sewer line description.
 - 150Ø uPVC SN8
28.50m at 1:108.4 - Diameter of pipe, type & class.
 - 150Ø uPVC SN8
28.50m at 1:108.4 - Distance between manholes, centreline to centreline and grade.
 - TM 1.450 - Top of manhole level.

- SERVICES:-**
- Direct connection (DC)
 - Jump up connection (JU)
 - Riser connection (RC)
 - 100Ø manhole connection - Benching (BC) - Vertical Drop (VD)
- Distance from downstream manhole to Y-junction - dimension 'L'.
 Invert level at limit of house connection branch.
 Allotment connection dimension 'X'.
 Allotment connection dimension 'Y'.
 Type of junction IEX - Existing.
 Level at top of riser cap.

SEWER MANHOLES

Manhole No.	Easting	Northing
5/B7b3B	6313.860*	76331.260*
2/B7b3B1	6399.260*	76365.900*
3/B7b3B1	6398.560*	76347.750*
4/B7b3B1	6395.180*	76313.920*
5/B7b3B1	6331.290*	76320.380*
1/B7b3B2	6364.550*	76349.310*

- All dimensions are to centre of chamber.

- NOTES:**
- All sewer manholes are 1050Ø type C2 U.N.O.
 - All sewer manhole tops are type 2 class 'B' covers U.N.O.
 - All 150Ø sewer mains & fittings are uPVC class SN8.
 - All 100Ø sewer mains & fittings are uPVC class SN10.
 - Service connection invert levels marked with a '#' indicates the invert level on the sewer main with allotment drainage capable of connecting between the top of riser & sewer main invert levels.

SUNLAND GROUP
REAL PROPERTY DESCRIPTION
Lot 903 on SP 239020
Parish of BOHLE
County of ELPHINSTONE

In Association with:
ROWLANDS SURVEYS PTY LTD
22 GORDEN STREET
CARBUTT 4814
Ph. (07)47755077

LEVEL DATUM A.H.D.
Horizontal Datum GDA 94 Zone 55
Refer P.L. 174439 RL 4.620
Belt & washer in kerb.
Cor HILLOCK CR. & GLENDOWER ST.

BASE SURVEY
Rowlands Surveys (42830/05)
TRUNCATED COORDINATES
E 0.880 N 0.000
EQUIVALENT TO
E 430600 N 7800000

All work has been carried out in accordance with LOCAL AUTHORITIES standard details.

SCI QUAL INTERNATIONAL
QUALITY APPROVED TO
AS/NZS 9001:2008

NORTHERN CONSULTING
engineers

Civil & Structural Engineers
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Phone: (07) 4725 5550 Fax: (07) 4725 5850
Email: mail@nceng.com.au
Milton Messer & Associates Pty. Ltd.
ACN 100 817 356

8 AMENDED TO AS CONSTRUCTED.
A ISSUED FOR TENDER / CONSTRUCTION.
P2 PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPW APPROVAL.
P1 PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR CLIENT REVIEW AND APPROVAL ONLY.

24/02/2015
15/09/2014
10/12/2012
10/10/2012

Issue Description Date

Drawn JHS
Date 10/10/2012
Checked AS
Approved JHS

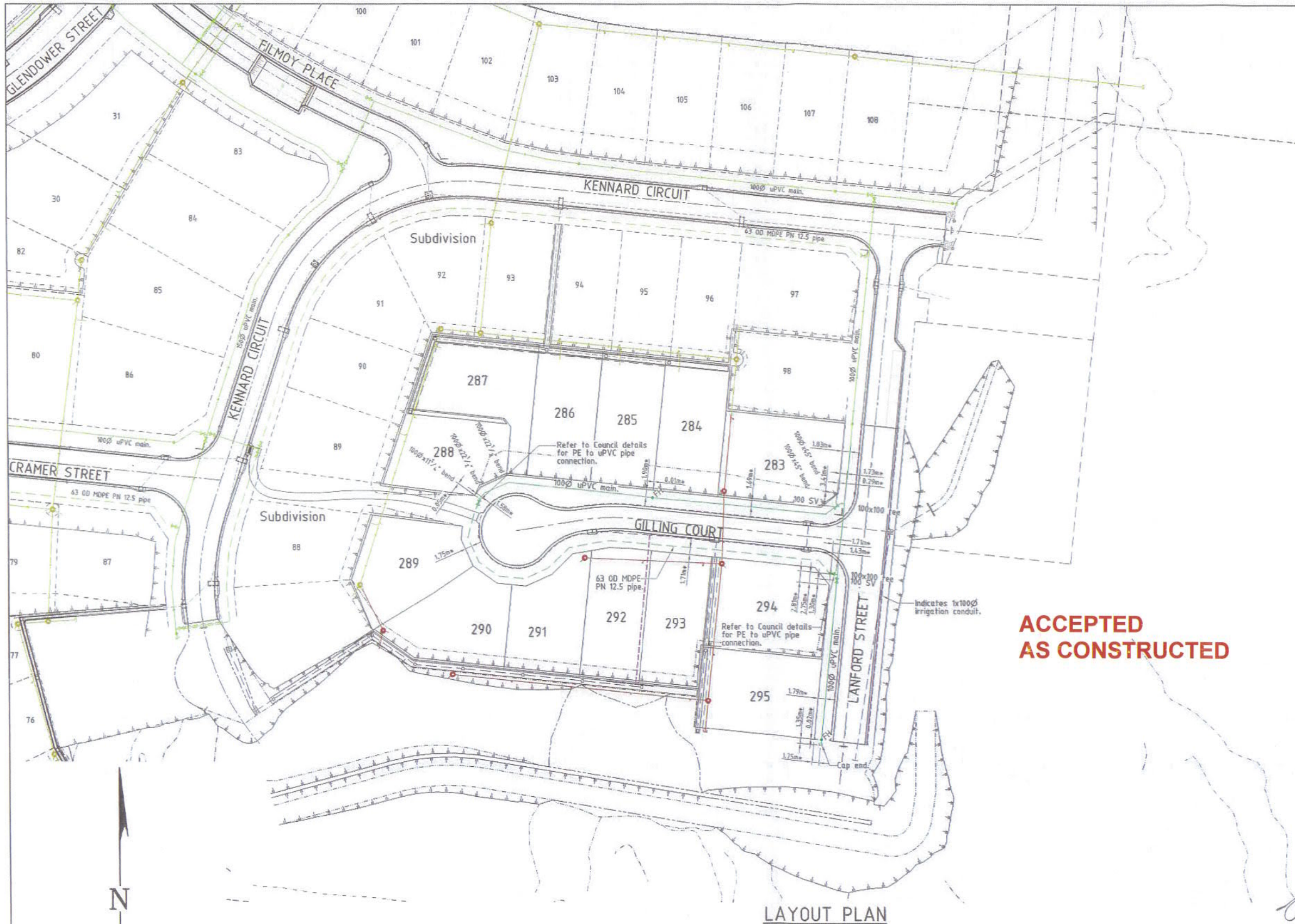
In Association With
SUNLAND GROUP LIMITED

STAGE 12, 13 TRADITIONAL RESIDENTIAL LOT SUBDIVISION
LANFORD STREET
BUSHLAND BEACH

SEWERAGE RETICULATION PLAN
Drawing Number
SUNJ0012/18
Issue
B

AS CONSTRUCTED
Rowlands Surveys Pty Ltd (ACN 010 025 260) hereby certify that the works detailed on this drawing, denoted *, have been constructed to the dimensions and levels shown.

Kerry Smith Date 26/2/2015
Director/Registered Surveyor



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GENERAL-
- - - - - RP boundary.
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 - - - - - Water main.
 - - - - - Poly water main.

- WATER RETICULATION-**
- FH Fire Hydrant.
 - SV Stop Valve.

- NOTES:**
AS CONSTRUCTED WATER RETICULATION:
- All water supply fixtures (FH, SV etc.) have been installed in accordance with Townsville City Council standards, ie. adjacent to boundary intersection, U.N.D.
 - All uPVC water mains & fittings are Class 16, C.I.O.D. compatible unless shown otherwise.

**ACCEPTED
AS CONSTRUCTED**

LAYOUT PLAN

AS CONSTRUCTED
Rowlands Surveys Pty Ltd (ACN 010 025 260) hereby certify that the works detailed on this drawing, denoted *, have been constructed to the dimensions and levels shown.
Kerry Smith Date: 26/2/2015
Director/Registered Surveyor

SUNLAND GROUP REAL PROPERTY DESCRIPTION
Lot 903 on SP 239020
Parish of BOHLE
County of ELPHINSTONE

In Association with:-
ROWLANDS SURVEYS PTY LTD
22 GORDEN STREET
GARDUTT, 4814
Ph. (07)47755077

LEVEL DATUM A.H.D.
Horizontal Datum GDA' 94 Zone 55
Refer P.M. 174438 RL. 4.820
Soft & waster in kerb
Cnr HILLOCK CR. & GLENDOWER ST.
BASE SURVEY
Rowlands Surveys 142836/051
TRUNCATED COORDINATES
E 0.000, N 0.000
EQUIVALENT TO
E 440000, N 7800000

Scale
0 5 10 15 20m
THE ORIGINAL OF THIS DOCUMENT IS COMPLETED TO THE SCALE NOTED.
AS REPRODUCTION CAN DISTORT SIZE & SHAPE USE ONLY THE DIMENSIONS PROVIDED ON ARCHITECTURAL &/OR ENGINEERING DRAWINGS.
VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION.

All work has been carried out in accordance with LOCAL AUTHORITIES standard details.



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Email: mail@nceng.com.au
Milton Messer & Associates Pty. Ltd.
ACN 100 817 356

B	AMENDED TO AS CONSTRUCTED.	26/02/2015
A	ISSUED FOR TENDER / CONSTRUCTION.	15/09/2014
P2	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OFW APPROVAL.	11/12/2012
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR CLIENT REVIEW AND APPROVAL ONLY.	10/10/2012
Issue	Description	Date
Drawn JHS	In Association With SUNLAND GROUP LIMITED	
Date 10/10/2012	STAGE 12, 13 TRADITIONAL RESIDENTIAL LOT SUBDIVISION LANFORD STREET BUSHLAND BEACH	
Checked [Signature]	Drawing Number SUNJ0012/19	Issue B
Approved [Signature]		
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